Exterminators Log

SCIENCE • PHILOSOPHY • HUMANITARIANISM

VOL. 1, NO. 11 NOVEMBER 1933

SPECIAL FEATURES

Encouragement for Exterminators
Officers and Directors of the National Association
The National Association and the Code
Legislation
Moth Proofing
Rats and Raticides
Fumigants
Who's World?
Would a Price List in a Code Help?

MOUTHPIECE OF THE EXTERMINATING INDUSTRY OF AMERICA

Encouragement for Exterminators

A prominent writer once wrote that the one thing that is troubling the Exterminators is the present spree of indulging in doubt.

You recall Solomon's proverb, "The slothful man saith, 'There is a lion without, I shall be slain in the street.'" Well, a potential laggard seems to lurk in each of us. And the laggard is bluffed by nothing else so easily as the lion of Doubt.

Many a doubt is enlarged in the exchange of opinion, through lack of insight into the other fellows problems.

Today as never before in the history of the industry, it is important not only for other business, but especially so for the Exterminators to understand each other. For example, take the retailer. Manufacturer, middleman, and banker, they constantly need to keep up to date in their knowledge of his problems. Today, especially, the retailer is depending on them for sound advice. He needs their help in clearing up his doubts.

In a similar way the Exterminating Industry needs help to better its condition by understanding and encouraging each other. It is for this purpose and object that the National Association was formed and organized. Only through this channel can every Exterminator derive the desired benefits that have so long been denied him.

We must recognize the fact that modern business has learned that greater progress can be made by cooperation and exchange of ideas.

For this purpose various lines of industry long ago organized associations to promote amity between competitors and to disseminate useful information for the general good. We must not overlook the fact that the art of getting on in the world is essential, the art of being able to place oneself in the other man's position is more important.

One must learn that he draws from life only what he gives it, that regardless of material possession he is of no importance as an individual unless in some way he has contributed to the welfare of his fellowmen.

The Exterminators like other business men were discouraged in regard to price cutting and unscrupulous methods of doing business, so for no other reason than this, it has inspired some of our leaders to advocate the importance of a national association. Those who remain on the outside independently will sooner or later feel like a lost sheep.

In all frankness, let us admit that in the past we were more or less discouraged. Not so long ago most of us were not so anxious in voicing our opinion in regard to organizing a National Association, but rather doubtful to a certain extent.

To sum it all up, we must learn that corrupt practices, unethical competition, inefficient methods reflect not only on the miscreant, but upon the whole industry.

That the Paramount keynote to success, is to have confidence, a better understanding and whole-hearted cooperation. This will be brought about by being a member of the National Association.

If every exterminator would honestly analyze the Industry as it was in the past, and look forward to what it shall be, every one in the Industry would be encouraged in a very profound way.

THE EDITOR.

EXTERMINATORS LOG

A Magazine Devoted to a Cause to Which Mankind Is Indebted

Al Cossetta, Manager and Editor
J. W. Smith, Associate Editor

B. M. Allegro, Business Editor

Vol. I. November, 1933 No. 11

CONTENTS

	Page
Encouragement for Exterminators	2
Officers and Directors of the National Association of Exterminators and Fumigators	4
The National Association and the Code - William O. Buettner	5
Legislation	6
Moth Proofing, What Is the Industry Doing About It?	7
Rats and Raticides - J. A. Robinson	8
Fumigants - C. L. Williams	9
Who's World? - C. W. Herron	11
Your Duty	14
Would a Price List in a Code Help?	13
Picked Up From Here and There	16
Items of Interest	15
Local and State Organizations	17

Published monthly by The Exterminators Log, 512 East 14th Street, Kansas City, Missouri. Subscription rate in the United States and Possessions $3.00 per year; Foreign $3.50 per year; Single Copies 25 cents; Bundles of 25 copies $5.00. All subscriptions and advertisements payable in advance at full price. Publishers not responsible for unsolicited manuscripts. No manuscripts will be returned. All contributions intended for publication must be sent in before the first of each month. Three weeks' advance notice necessary for change of address. Both old and new address must be given.

Officers and Directors of the National Association of Exterminators and Fumigators

Too few are acquainted with the men who must necessarily carry on with some of the detail work involved when an organization such as the National Association of Exterminators exists for the benefit of the industry. The Log will introduce with each issue three or four of the officers and directors that greater acquaintance is possible. We had desired to publish with this issue Mr. Steckel's photograph and biography so that president, secretary and treasurer would appear in same issue. Material arrived too late to include but we shall introduce Mr. Steckel to you in the next issue.—Editor's note.

IRVING H. JOSEPHSON

Irving H. Josephson, secretary of the National Association of Exterminators and Fumigators, was born in New York City about twenty-nine years ago. He was educated in the public schools of the metropolis, later attending Stuyvesant High School and Cooper Union. Mr. Josephson is very active in fraternal orders and other organizations. He is at present a member of Bronx Lodge of the Elks; an officer of Palestine Lodge of the Masons; a past president of Phoenix Widow and Orphans' Aid Society; a member of National Union Assurance Society, the original Level Club. He has also had extensive experience in the real estate field in New York City. He is one of the founders of the Society of Exterminators and Fumigators of New York and is now serving as its secretary, a position he has held since the society's inception.

He has been in the exterminationg business from an early age. He is secretary-

treasurer of the Josephson Disinfecting Co., Inc., a service company established by his father more than forty-two years ago. His father is a pioneer in the industry, having started his company as one of the first to render regular periodic services in every kind of building or structure. Mr. Josephson's experience and research in the field of exterminating has enabled him to enter the manufacturing of insecticides, fumigants and related products of exceptional quality. He has formed the X-Ray Insecticide Laboratories, Inc., to manufacture and distribute materials and supplies for the exterminating trade as well as kindred household aids such as polish and floor wax.

WM. O. BUETTNER

Comparatively speaking Mr. Buettner is a young man in his early thirties but receives the confidence of the industry in the metropolitan area of New York, having been unanimously elected to the presidency of the Society of Exterminators and Fumigators of New York last April. He has been active in the work of the New York Society from the beginning, serving as director for three years prior to his election as president. Much progress is being made for a better understanding amongst exterminators and fumigators which in turn is being further strengthened because of the NRA program.

The NRA called for national action and through correspondence many have become acquainted with Mr. Buettner. At the convention, October 2, in Washington, D. C., Mr. Buettner was honored by being elected president of the National Association of Exterminators and Fumigators, a position which calls for considerable sacrifice in time and unselfish labor.

It is entirely fitting that one virtually brought up in the exterminating industry and who by nature has a genial greeting and shows a willingness to work, should find himself informally called "Bill" by all who meet him. Bill's father started the business which in 1925 was incorporated as Oscar G. Buettner & Son, located at 3019 Ft. Hamilton Parkway, Brooklyn, N. Y. Bill has been secretary-treasurer since the incorporation of the business.

Bill is a graduate of Clark Preparatory School and Dartmouth College with the class of 1924. His business and fraternal affiliations include the Flatbush Chamber of Commerce, Zeta Psi Club, Delta Sigma Rho, Bezaleel Lodge No. 100 F. & A. M. through Kismet Temple A. A. O. N. M. S.

THOS. C. RALEY

Thos. C. Raley was reared on a farm in East Texas, attended a country school in Carthage, county seat of Panola. He quit high school at the age of sixteen, then traveled west and located at Terrell, Texas, and was employed for four years by one of the Texas State institutions for the insane. This institution then transferred him to another located in San Antonio, Texas, in 1910. There he attended a night school for eight months, taking a general business course in office management and bookkeeping, as he had been appointed assistant storekeeper and bookkeeper at the San Antonio institution. It was at this time that he met Mr. W. D. Hussung who employed him in 1912 and sent him to St. Louis to begin his career with Getz Exterminators. Employed by Mr. W. D. Hussung, founder of Getz Exterminators, in February, 1912, at the age of twenty-four. Was in business twenty-one years, traveled for Getz almost continuously for thirteen years, having worked many hotels in the Central states from the Great Lakes to the Gulf.

In 1925 the organization was incorporated and he was selected as president and treasurer and has held these offices since that time.

Charles H. Bedingfield, another Texas boy, who joined Mr. Hussung two years before Mr. Raley did and who was placed in charge of the first branch office opened in Kansas City, Missouri, in 1913, was made vice-president.

The Getz Exterminators, Inc., cover approximately seventeen states, have branch offices in Texas, Louisiana and Georgia. They are capitalized at $150,000.00 and are still paying dividends to the preferred stockholders. The depression has affected them greatly the past three years. Their business having decreased over $35,000.00, but they are succeeding and going strong.

The National Association and the Code

There is no doubt about the industry desiring to know the latest developments as to our national code and progress being made by the National Association. At the present the National Association and the code become one and the same theme, although with time the National Association will function with much wider scope.

First then, the National Association. The officers and directors have taken up several matters which were presented for consideration, such as the selection of representatives to be added to the board of directors from the West Coast and South; terms of office of the present directors; changes that may be desirable in the constitution and by-laws; suggestions for committee appointments and many other details. The foregoing substantially amounts to that type of work which becomes difficult to enlarge on when writing a report, but nevertheless will give some idea of the many matters that must be taken care of, reflecting the quiet service men of the industry are giving that our industry may become recognized nationally.

By far the most important work has been that of taking up further with groups of exterminators and fumigators throughout the country those numerous questions having to do with the national code and many suggestions that have been requested as meriting consideration. The possible changes in any code involves far more detail work than many would believe and the National Association is doing its utmost to be the clearing house so as to bring a better understanding of all the problems involved.

Encouraging is the work being done by the officers and directors as they bring into the National Association many new members. Quite obviously a membership is essential and only as the vast majority in the industry become identified with the National Association can it be expected that full particulars and necessary expenses be taken care of. The fee of $2.00 to December 31, 1933, will go a long way in making it possible to keep all informed. It is impossible to expect that the National Association can send letters to all in the industry or keep all firms posted if the "wherewithal" is not provided. In Chicago, we find our directors, C. Norman Dold and Walter McCloud, writing personal letters to all firms in their city urging them to join. From St. Louis, through the secretary of the society, Mr. Duncan, a check was received this a. m. in the amount of $24.00 which pays up the balance of those who had not previously paid.. Other societies have done similarly, automatically including with local dues the amount of National Association membership, thus making it a certainty that full representation will be had nationally. From several places where there are only a few concerns, an interested member of the industry is encouraging others to join. Elsewhere in this issue is a list of societies or groups that are either organized or in the process of organization which in itself bespeaks the progress that is being made. All have expressed their willigness to co-operate with the National Association.

Now to the more important matter of the code. The code has been filed and we are awaiting the date of the hearing. Before the hearing takes place there are the matters of changing phraseology in certain paragraphs of the code and other details that are required by the National Recovery Administration. It will be the policy of the National Association to inform all members immediately upon word as to the date of the hearing. Mr. Bogorad, who is representing the National Association in Washington, has had several conferences with the authorities. The authorities have, likewise, been in communication with the National Association and all matters that have had to do with the code are promptly being taken care of.

It would appear that any code to be acceptable must provide such regulations that would make it possible to have the code enforced. There is always that group who feel that they are either too small to consider themselves a part of the industry, or who feel that they should remain quiet at "no expense" and thus reap the benefits. The NRA calls for the complete co-operation of all and it has been made plain that something should be included in the code that will make such co-operation complete so that those who are willing to do their share will be protected. Thus far the provision that will govern such participation has brought the following suggestion as to wording:

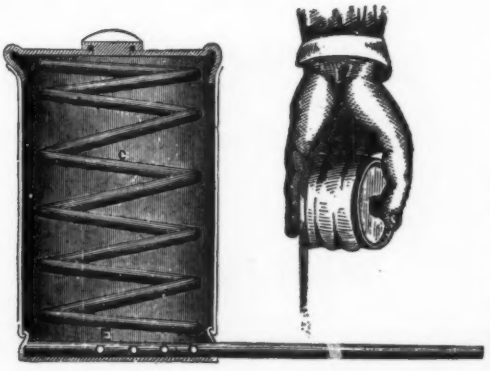
"Equitably to proportion and collect from time to time the cost of establishing and maintaining the "Exterminating and Fumigating Service Code Committee" from such members of the industry who fully participate in the code by exercising the right to vote and/or to use the NRA insignia. Only such members who participate in the expense of establishing and maintaining the "Exterminating and Fumigating Service Code Committee" shall be permitted to publicly evidence their participation by displaying the NRA insignia. The "Exterminating and Fumigating Service Code Committee" subject to review by the Administrator, shall authorize the use of the NRA insignia to members of the industry according to the provisions of this paragraph."

The National Association is interested in keeping expenses as to a code at the lowest possible cost and the feeling is still strong that with complete co-operation this is possible. The proper functioning of local societies will go a long way to straighten out difficulties before they reach the proportions of requiring the more costly method of having the "code authority" make investigations, etc.

A more detailed letter will go forth to the membership of the National Association covering many items as soon as the date of the hearing has been set.

WILLIAM O. BUETTNER,
President, National Association of Exterminators and Fumigators.

GETZ PATENT BLOWER



This is the blower used by us exclusively on all our contract work in the distribution of our Getz Cockroach and Ant Exterminator and our Getz Bedbug Exterminator.

It is made of the best rubber cloth obtainable, with tin top and bottom. The spring, which gives it a tremendous pressure, is made of the best coppered steel spring wire. The blower holds about one-quarter pound of powder. For quick and careful, as well as thorough work, it has no equal.

All Rubber Heavy Duty type blowers retail for 75c each or $9.00 per dozen.

Rubberized Cloth blowers retail at 50c each or $6.00 per dozen.

In 3 dozen lots or more on any single order a 25% discount will be allowed.

All merchandise sold F. O. B. St. Louis.

When check accompanies order merchandise will be sent prepaid, otherwise it is sent C. O. D. Parcel Post. All blowers are guaranteed for 90 days. Blowers may be repaired for 25c each, plus carrying charges to and from St. Louis Factory via Parcel Post. When rubber wears out, send in top, bottom, springs and new cover will be replaced at above charges.

GETZ EXTERMINATORS, Inc.

1135-39 Pine Street St. Louis, Missouri

LEGISLATION

The health authorities in many cities for the past few years have been confronted with proposals for legislation in connection with the exterminating and fumigating service industry. Greater thought on these matters are due to the number who had suddenly decided to enter the industry, when as a matter of fact such are not as qualified as they should be as to the use of chemicals, poisons and fumigants. The public must be protected and legislation as far as the health authorities are concerned, is considered primarily from this angle. The number of accidents, and in some instances resulting in death, has prompted health authorities to take action.

The exterminating and fumigating service industry is not only vitally concerned from the standpoint of protection of the public, but also there is anxiety from the standpoint that mere legislation will not solve the problem if such legislation falls short of taking into consideration the fitness and ability of such persons who desire to engage in the industry. Fumigants and the proper use of them receive most emphasis but it can also be said that extermination by insecticide methods should also come under the scope of such legislation.

For over three years, the National Fire Prevention Association has given consideration to a model law with regard to fumigants. The United States Public Health Service has been active in this matter. The Manufacturers Chemists Association of Washington, D. C., has likewise given serious consideration. And with these major groups, the health authorities in many cities have either passed legislation or have other legislation in progress.

Where legislation already exists, it can be assumed that much preliminary conference work prevailed and problems were met before any enactment of the law. Such cities or states have much to offer to those who are contemplating legislation. "The Exterminators Log" would recommend that wherever proposed legislation is being considered every effort should be made to study existing legislation in other cities and states because it must be realized that such actual legislation has been the result of much study. All existing legislation is not perfect and changes are desired and are even being considered at the present, but in the main, much inconvenience and lost effort could be prevented if committees working on legislation will avail themselves of studying the existing legislation.

Of paramount importance must be the realization that any legislative proposals which savor of the racketeering idea will soon meet with defeat. A few working on legislation matters may view the problem from one angle only, when fundamentally there must be considered a fair standard that takes cognizance of the employer, employee, public, property owner and those who sell merchandise. Proposed legislation many times encounters much delay and extra work because all factors have not been considered. The purpose of this article is to assist any who contemplate legislative recommendations and offer co-operation. The National Association is endeavoring to compile material which will be available for the industry.

IF *YOU*

DON'T ASK THEM TO BUY
SOMEBODY ELSE WILL

(A Message to Advertisers)

⋈ ⋈ ⋈

What Have You to Offer?

If ever there was an opportunity in advertising, it exists today.

Put this great selling force to work for you. The important thing is to get started with copy that is adequate, copy that is in tune with new tempo of the buyers' demand. Somebody is going to sell these buyers goods. Why shouldn't it be you?

Efficiency, Concentration, Low Cost. These qualities insure profitable, dependable performance for advertisers and by using the columns of the LOG, these are assured the advertiser.

MOTH PROOFING

What Is the Industry Doing About It?

In 1921, nine dry cleaners organized a society to improve the technique of their industry. They adopted the name of the Munda-technical Society of America, and established a fellowship at the Mellon Institute of Industrial Research in Pittsburgh, Pennsylvania.

Two chemists, Jackson and Wassell, were employed by the institute to carry on this research work. The most important job assigned to these chemists was to work out, if possible, a liquid for use by the dry cleaners to render woolens immune from damage by moths. It was felt that if dry cleaners could offer such a service to their customers, it would become an important addition to their business.

These far-sighted and progressive dry cleaners eventually received from Jackson and Wassell, what proved to be a satisfactory compound. We have watched with interest these cleaners who conceived the idea and developed it into a source of substantial income. We have seen the warehouseman grasp the idea of moth proofing and who has profited.

The exterminator and fumigator has been very slow to recognize the tremendous financial possibilities of moth proofing. It is obviously a type of work that belongs to us and it is but natural that the purchaser of this type of service would and should have a far greater degree of confidence in the results to be obtained from an established exterminator doing the work than they might have if a dry cleaner or a moving man does the work.

The field for moth proofing service is as extensive as the use of upholstered furniture, rugs, draperies, furs or woolens. The innocent appearing little clothes moth is quite unconcerned whether it deposits its eggs on a day laborer's furniture or on some very expensive custom-tailored furniture. Anything made of animal fibre is food for the voracious moth worm.

Damage due to moths may be small or it may be very serious. A few years ago, the executive of a very high grade New York concern which does moth proofing work, mentioned that their repair department had just completed an $1800.00 repair job on three rugs due entirely to the ravages of moths. This same firm, at the time moth proofed six rugs for a customer valued at $200,000.00.

A storage warehouse in Philadelphia doing moth proofing, was called upon to treat the famous J. Horace Harding memorial tapestries consisting of five pieces and valued at $3,500,000.00. These tapestries are displayed in the Pennsylvania Museum, Philadelphia. This certainly should have been a highly profitable job.

Damage to articles of lesser value in more moderate homes is relatively just as serious a problem as damage to such valuable articles as described above. As a matter of fact, in most instances moth damage in the more modest homes presents even a more serious problem to the owner than moth damage in the homes of the very wealthy. The very wealthy are able to replace articles damaged while the home of more moderate circumstances to replace or repair the damage of moths, may be a serious financial problem.

The commercial exterminator, no matter where he is located in this country, has a market at his door for this service. Many people believe moth damage is done in the spring months; this is not true. Under the present conditions, living in well-heated houses, moth damage is a year-round problem.

Let us look at this field more definitely: All articles of clothing made of wool or other animal fibre are subject to moth attack. Clothing which is worn every day does not present a serious problem because under these conditions there is no opportunity for moths to work. When clothing is put away for a season, however, great care must be taken to insure that it will not be damaged by moths. In the home we have upholstered furniture, draperies, rugs, blankets, mattresses, tapestries, etc. Indeed in many instances it is possible to sell moth proofing jobs for an entire house. Homes closed for either the summer or winter season, offer good possibilities in this connection. In the industrial field, we have large and lucrative possibilities in hotels, clubs, churches, furniture stores, museums, etc. This field alone has so many interesting angles, that it shall be treated as the basis of a separate article, should our readers request it.

The field for moth proofing exists wherever you are located. The results will depend almost entirely on your own effort. We are confident that with a little intensive effort in this field of work, you will be astounded at the wide and profitable field which is open to you.

The housewife who sees a moth, instintively kills it, but where will she find and destroy the eggs it has probably already laid and where the young larvae that perhaps already have developed from some of the eggs? One of the members of the Bureau of Entomology of the United States Department of Agriculture has stated that for every flying moth seen in a home there are probably a hundred remaining hidden. There is nothing lackadasical about the way a moth larva eats and there must be nothing lackadasical about fighting the pest.

Probably the oldest and most widely used method of moth control is the moth ball. Moth balls are made of naphthalene and are no different in their action than naphthalene flakes. It is possible to kill moths with naphthalene but in order to do so, it is necessary that enough material be used so that the space contains a saturated vapor of this chemical. This means that the vapor must exist in sufficient concentration to smart the eyes. Such concentrations are extremely difficult if not impossible to obtain under home conditions. The presence of naphthalene may well result in repelling the entrance of moths or moth larvae but is entirely possible to have articles seriously damaged by moths even though naphthalene is present. Any moths remaining in the articles put away in naphthalene are not likely to be killed and naturally will continue to eat.

Paradichlorobenzine, either as crystals or in blocks, is also used for moth control purposes. It functions in about the same way as naphthalene; has about the same effectiveness, and should not be relied upon under home conditions.

Camphor is also used and is nearly as effective as naphthalene or paradichlorobenzine.

The housewife knows from experience that even though the greatest care is used in putting away woolens with naphthalene, paradichlorobenzine or camphor, moth damage is still entirely possible. Under ordinary home conditions they may not be relied upon to give absolute protection against moths. If an article is absolutely free from moths, larvae, pupae and eggs, it can be protected indefinitely if it is enclosed in a heavy unbroken paper sealed so tightly that there is no point at which a moth can enter.

Some housewives rely upon fumigation with formaldehyde. Of formaldehyde, one of the Government Bulletins says: "Formaldehyde fumigation is worthless for control of clothes moths or other fabric pests, notwithstanding general belief."

Still other housewives use a long list of substances such as lavenda flakes, cayenne and black pepper, spices, salt, borax, red cedar leaves, all of which according to Government Bulletins, are of practically no value.

In recent years, many people have come to use various sprays. Usually these sprays contain naphtha, either with or without some other ingredients which are intended to increase its killing powers. Such sprays are in no sense moth proofing compounds. They are moth killing preparations and will kill moth life with which they come in direct contact. Such sprays at best act as temporary repellants.

In order to obtain moth protection with such products, it is necessary that every particle of moth life, either egg, larvae, pupae or the moth, be killed by contact with the compound. It is almost impossible to be sure of accomplishing this even though the spraying is carefully done. Even then no lasting protection has been secured as moths may enter as soon as the spraying is over.

All of the methods and materials just described are either moth killers or moth repellants.

To the exterminator or fumigator contemplating moth proofing service, remember, only a few preparations exist that can be classed as moth proofers. Certain arsenic preparations have been used and are effective to a considerable extent. They do not prevent all damage to fabrics and are subject to objection because of the dangers of poisoning human beings. Such preparations are few and in some states are forbidden by law.

Another class are those containing flourides and silicoflourides. These are used in water solution, they are not soluble in naphtha. They impart relatively satisfactory protection to fabrics but their use is greatly restricted and one must be careful for the reason that many articles cannot be sprayed with water or dipped; shrinkage, running of colors, etc., make such compounds impossible of general use.

It is to be remembered that the flourides and silicoflourides act as stomach poisons on insects and apparently do not possess any repellant properties. The larvae will eat fabrics treated with flourides as readily as they will eat untreated fabrics but due to the poisonous nature of the active ingredients, the eating does not continue for any length of time so that little damage is done.

It is possible to procure compounds that will effectively moth proof without shrinking, staining or adversely affecting the physical properties of textiles. This is a phase of our business that carries a large margin of profit and is worthy of serious consideration.

This article is intended to be thought provoking, a sort of "Sentinel of the Outer Gate." Possibilities of new revenue! What does the industry propose to do about this?

Rats and Raticides

By J. A. ROBINSON

(Director of Sales, The MUS System, and Affiliate International Research Society of London, England.)

PART VII

How to Bait for Rats

It may be safely concluded from the start that the focal point of all rodents is the source of food supply. The factor of availability supersedes that of preference; in other words, rats will take any type of food in such instances where more attractive edibles are lacking. However, where numerous desirable food stuffs are readily at hand, there is no reason to assume that poisoned baits will be shown preference unless such baits have been particularly well chosen.

Rats are omnivorous (eating practically any foods), carnivorous (meat eaters) and cannabalistic (feeding upon their young and each other). Rats infest premises for either food, water or shelter; these are the controlling factors to be considered in their treatment. Elimination of any single factor may not necessarily drive them away, but elimination of all three certainly will. While the conscientious exterminator is vitally concerned with rat-proofing of constructions so as to supplement his own efforts in bringing any problem of infestation under control, the author is here concerned principally with the method of treatment where infestation already exists.

Analyzing the Job

The careful exterminator avoids telephone quotations, his experience having proved over and over again that, the prospect invariably evidences a tendency to under-rate or grossly exaggerate his true conditions. The layman, witnessing five or six rats feeding in a group, invariably magnifies the number in his mind's eye to a vast army. The extent of infestation has an important bearing on the number of baits to be served.

Because rat catching is an art, but not an exact science, each problem becomes an individual problem and "the garment must be cut to fit the wearer." Any rat job must necessarily be a tailor made job, although certain elementary rules are applicable in every instance.

First, there should be a detailed inspection of the premises with a view of determining—

1. Degree and extent of infestation.
2. Means of ingress and egress.
3. Causes of infestation.
4. Focal sources of food and water supply.

It is important to know right from the start, the probable number of rats on the premises. A good guess may be hazarded by discovering the runways,* generally located along the walls and in the darkest spots, behind obstructions, and dotted periodically with deposits of excreta. Rat dung is spindle-shaped, approximately ½ inch to ¾ inch in length, bellied in the center and muddy-black in color. Rats empty the stomach with great frequency so that the extent of excreta deposits may be accepted as an excellent gauge to the degree of infestation.

The next step is location of the means of entrance. This knowledge will be utilized later, after the work of extermination has been successfully accomplished. It must be remembered that rat openings should never be stopped prior to the period of baiting; on the contrary, every effort should be made to invite the greatest number into the premises in an effort to effect the maximum kill.

The third step should be a scrutiny of the sanitary conditions, keeping in mind that rats are synonymous with dirt.

The final preliminary survey should reveal the type of food disappearing most frequently, leaky plumbing, seepage from refrigerator drain pipes or water basins used for industrial purposes. Rats must have water very frequently and sources of water supply constitute one of the principal points calling for heavy baiting.

How Much Food Will a Rat Eat?

Rats eat approximately one (1) per cent of their body weight at any one time. The weight of the average rat being about 240 grams, it may be concluded that each rat should be supplied with 40 to 50 grains of food at the first feeding in order to induce a fatal dose of any poison, as subsequently it may become suspicious and refuse to touch more of the adulterated bait.

Selection of Food Baits

It may be safely assumed that rats do not want to die and that Nature has provided all hunted creatures with some innate sense, undeveloped in humans, warning them against danger. A great deal of the ingenuity attributed to rats because of their seeming cleverness in avoiding poisoned foods, may be traced to the simple fact that the poisons in question are offensive to the taste and their predominating acridity is easily detectible to the highly developed taste of the rat. It will generally be found that in such instances where rats are half starved because of the elimination of the customary food supply, they become easily amenable to poisoned baits, taking them quite readily and demonstrating that they will take any food in the absence of more desirable edibles.

In the selection of food baits, great attention must be given to the quality and type of food. Rats cannot thrive on any one food! Variety is absolutely essential if the duration of life and the degree of fertility are to be increased.

*A runway may be defined as a hidden pathway used by a rat colony in their migration to and from the cache to their customary source of food and water supply.

SINCE 1895
Billions of Bugs Have Bit the Dust
of
EDGAR A. MURRAY'S
ROACH DOOM
EQUALLY EFFECTIVE IS OUR
NEW MOTH DOOM
IT KILLS AND MOTH PROOFS
Play Safe—Make Our Famous Slogan
"No Riddance—No Pay"
Your Own, By Using
Edgar A. Murray's Doom Products
in Your Practice
Special Low Prices to Exterminators
WRITE NOW TO
EDGAR A. MURRAY
DETROIT, MICHIGAN

FUMIGANTS

By C. L. Williams, Surgeon, United States Public Health Service

PART I

Hydrocyanic acid is one of the most rapidly fatal poisons known to man. Because of this fact its use as a fumigant is attended by grave hazards to human life. These hazards may be guarded against, but their elimination requires the most meticulous care as well as a wide and thorough knowledge of behavior of the gas. Handled by experts it is reasonably safe, but in the hands of the ignorant, reckless, or careless, it is a frequent cause of fatal accidents, as may be verified in the files of our daily newspapers.

Hydrocyanic acid gas is our nearest approach to the ideal fumigant. Confined in inclosed spaces, quite small amounts destroy all animal life therein; but when liberated in the open air its dissipation is so rapid that it requires very large quantities to produce fatal results in human beings. It is this property of rapid dissipation in the open that permits its use as a fumigant. If it were not for this, fumigators could hardly handle the gas, and upon opening a fumigated building passers-by would be killed, whereas, as a matter of fact, it is practically impossible to force gas out of a building in sufficient volume to become dangerous to persons in the open air.

The gas is very penetrating; it will actually penetrate a brick wall if given sufficient time, although within the time allowed for fumigation this rarely occurs. Of course penetration through cracks in a wall is another matter. It will penetrate into the center of a sack of flour in about two hours; and if the concentration is maintained sufficiently high, enough gas will penetrate a sack of flour in six hours to kill weevils. Highly porous material is very rapidly penetrated by this gas—a fact of considerable importance to fumigators, since the gas penetrates their clothing almost at once.

Penetration being merely one feature of diffusion, it is not surprising to find that the gas also rapidly passes out of materials it has penetrated. A comparatively short stay in the open air will remove most of the gas from fumigated articles. An hour's airing, for example, renders a mattress safe to sleep on, unless an excessively heavy concentration of gas has been used. Water, however, absorbs hydrocyanic acid and holds it, particularly in cold weather, so that after fumigation, moist articles require longer airing than dry ones. Ordinarily, gas absorbed by collections of water is given off so slowly that it is not dangerous; but occasionally a relatively large amount is taken up on a cold day, and when a warm day follows, the gas is then given off more rapidly. One or two accidents on ships have been attributed to gas absorbed and later released from bilge water under such circumstances. On one occasion the ship passed into the warm waters of the Gulf Stream.

From what has been said of dissipation of the gas in the open air it will be realized that it is only when gas is liberated in closed spaces, such as closed rooms or ships' holds, that it becomes dangerous. Foods absorb the gas, but not in dangerous quantities from the concentrations generally used in building fumigations. It is well, however, to air fumigated foods for two or three hours before eating them. Foodstuffs fumigated in fumigation chambers with high concentrations of this gas (10 to 20 ounces HCN per 1,000 cubic feet) should be aired at least 24 hours.

Hydrocyanic acid gas is not injurious to the vast majority of the articles in commerce. In the concentrations used for ship fumigations to kill rats it is not injurious to any known material, including such delicately flavored commodities as tea and tobacco. This is a very important consideration and one of the dominating ones in the establishment of this gas as a fumigant. In heavier concentrations (10 ounces per 1,000 cubic feet) it is injurious to delicate vegetables, such as lettuce and probably to bananas, interfering with the ripening processes. It probably would kill living foods, such as oysters, although the necessity of fumigating oysters has never arisen. Fumigated eggs usually will not hatch. (Probably few people would suspect that the gas penetrates through the shells of eggs.)

Because only small amounts are required, hydrocyanic acid gas is a cheap fumigant, probably the cheapest effective fumigant. For the destruction of rats, only two ounces of HCN per 1,000 cubic feet of space is required. At $1 a pound, this amount costs 12½ cents.

Methods of Use

Hydrocyanic acid is used as a fumigant in one of three ways:

(1) It is generated on the premises.

(2) It is supplied ready prepared as a liquid in steel cylinders from which it is forced by air pressure and introduced as a fine spray which at once evaporates.

(3) It is supplied as a solid which is spread on the floor. This solid form may be liquid HCN absorbed in an inert material, from which it evaporates, or it may be calcium cyanide powder, which absorbs moisture from the air and generates HCN.

The following is a list of the cyanide fumigants generally employed arranged according to the method of preparation:

(A) Generation Methods

(1) Hydrocyanic acid gas generated by adding sodium cyanide to 50 per cent sulphuric acid.

(2) Hydrocyanic acid, cyanogen chloride mixture.—The gas is generated by adding NaCN and sodium chlorate to 50 per cent hydrochloric acid.

(3) Safti-fume.—This is the same as the hydrocyanic acid-cyanogen chloride mixture, except that the NaCN and $NaC10_3$ are ready mixed with sand and other more or less ingredients in the form of briquettes, which are dropped into HC1.

(B) Hydrocyanic Gas in Solid Form Permitted to Evaporate

(4) Zyklon.—Liquid HCN absorbed in Fuller's earth. Packed in heavy cans.

(5) HCN Discoids.—Liquid HCN absorbed in unsized paper disks. Packed in heavy cans.

(6) Cyanogas.—Calcium cyanide, a fine powder, packed in heavy cans.

(C) Hydrocyanic Acid in Liquid Form; Introduced As a Spray

(7) Liquid hydrocyanic acid in heavy steel cylinders. Forced through a hose and out a spray nozzle by air pressure.

Of these various preparations the most effective is liquid hydrocyanic acid. It is the most dangerous to use, both to the fumigators and to the innocent bystanders. The Interstate Commerce Commission requires that it be shipped only in heavy steel cylinders, the size usually employed holds 75 pounds. Since the liquid is extremely volatile, should a cylinder be broken in a traffic accident the results might be disastrous; for despite its rapid diffusion in the open air, the large amount immediately liberated would probably overcome those in the immediate vicinity at once. However, these cylinders are very strong and no accident due to their being broken by outside force has been reported. For use on ships the liquid is transferred to smaller and lighter (tested to 600 pounds pressure) steel cylinders holding 18 and 30 pounds. These are transported on the fumigating boat. In fumigating buildings the heavy cylinders are invariably used.

Set in the tops of the cylinders are two valves. From the outlet valve a steel tube leads to the bottom, the other opens directly into the cylinder and through it air is pumped, just before use, until a pressure of 75 to 100 pounds is reached. To the outlet valve is attached rubber pressure tubing ending in a spray nozzle; this is led into the space to be fumigated, the valve is opened, and the liquid forced out by the air pressure is sprayed into the air. The amount used is measured by placing the cylinder on a platform scale and noting the progressive loss of weight. In large buildings it is necessary to lay the hose to va-

(Continued on page 18

Pyde-Pyper comes to the RESCUE

Solves Serious Household Problem!

New Discovery

OF FAMOUS EUROPEAN LABORATORIES

Serious problem of millions of homes and buildings now safely solved.

News of a thrilling discovery is now spreading to all corners of the earth.

It comes as the result of years of patient effort, from a great European research organization. This new discovery solves, in a completely scientific way, the age-old problem of rats and mice. It is called PYDE-PYPER. Unlike any other preparation ever known, PYDE-PYPER destroys rats and mice without the SLIGHTEST DANGER TO PEOPLE, DOMESTIC ANIMALS AND POULTRY. IT IS NOT A POISON!

You simply spread PYDE-PYPER on top of any food —no mixing—no mess. The peculiar scent is recognized by rats and mice and actually draws them to the prepared baits. They nibble — then leave the premises, never to return. Unpleasant after effects are thus removed.

Be safe and sure. For sanitation, positive results and complete safety, use PYDE-PYPER—the only scientific method of rodent control.

PYDE-PYPER prices as follows:

		HOW PACKED	LIST
80-Baits	80	Six (6) individual boxes to easel-backed counter display. Each individual box contains glass jar of Pyde-Pyper, Spatula, Liquid Bait Cup, Bait Plates and vial of MUS-Odoreen.	$7.20 Doz. 33⅓% Disc.
500-Baits	500	One (1) glass jar in Industrial Kit, including Utility Wood Spatula, Bait Plates, Six (6) Liquid Bait Cups and Two (2) Vials of MUS-Odoreen.	$3.00 each Disc., None
1000-Baits	1000	One (1) glass jar in Industrial Kit, including Utility Paring Knife, Bait Plates, Six (6) Liquid Bait Cups and Two (2) Vials of MUS-Odoreen.	$5.50 each Disc., None

IN BULK: 1 Lb. —One Glass Jar PYDE-PYPER..... $5.50 less 33⅓%
5 Lbs.—Metal Container PYDE-PYPER ..... 5.50 per lb. less 40%

TRY PYDE-PYPER NOW! PROTECT YOUR CLIENTS FROM DEADLY POISONS — IMPROVE THE QUALITY OF YOUR SERVICE. SEND FOR THE TRIAL INDUSTRIAL KIT.

PYDE-PYPER COMPANY

OF KANSAS CITY, MISSOURI

512 EAST 14TH STREET

EXCLUSIVE DISTRIBUTORS TO THE EXTERMINATING INDUSTRY.
WRITE FOR DETAILS IF INTERESTED IN REPRESENTING US
IN YOUR TERRITORY.

Please Send Check or Money Order With Each Order

WHO'S WORLD?

By O. W. HERRON

of Getz Exterminators, Inc.

Somewhere in the distant past, too distant to quibble about at this time, crawled and wriggled a lowly creature, an insignificant bit of matter animated with energy, known as life. The rocks testify to us that there were millions of these potozoa which changed and diversified as nature pressed and demanded till one of these forms became a species of prince among them, and because of a swifter and stronger machine of mental equipment he became leader and dictator, to some degree, of all the other crawling, wriggling, struggling and fighting forms. This warrior prince, the partial victor over the other forms, we now call Man.

But the wide-awake Sentinels at the outposts are still crying "Be ready for the denizens of the lower valleys for they are persistent in their mobilization!"

Our purpose for this article is to disturb or shatter to some extent the complacent, smug belief that man, because he is the mental superior is somehow guarded and protected by some supernatural intelligence from these lower forms, the germs and insects.

The doctors and entomologists continue to tell us the dangers of the warring microbes and insects and we need not be a specialist to see that this earth is populated by a seething mass of carnivorous life. Man himself slaughters many different kinds for his food and many more kinds for sheer sport, enumerate them for yourself; half of the mammal kingdom lives off each other instead of vegitation, many of the fowls are meat eating and fish are almost exclusively carnivorous. And as for the insects, they speak for themselves to any one who has eyes or a sensitive skin.

The carnage and slaughter of the different forms of life on each other is not the worst of the picture. The destruction and contamination of the plant food, that animals must have, is a greater detriment to life than the direct slaughter itself. At any rate the fight for existence has been going on since the dawn of life and is still on, more desperate than ever; and as true patriots of man it is the duty of man to fight for the existence of man with the intelligence of man.

Of course the insects have no conception of exterminating man from the earth, but in their own struggle for life they run counter to the life struggle of man, and man's continued lethargy in the conflict would finally annihilate him from this sphere.

We must bear in mind that our ethical concepts are ours only, artificial, man-made, and apply to us only. Other forms of life know nothing and if they did would care nothing for our moral law. We can get no aid from this source except as it applies to us, the Homo Sapiens, only.

If the Universe was intelligent and friendly to man we might expect some help from that source, to combat the insects, but all our experiences show us that it is neither friendly nor unfriendly, it is neutral, and is as apt to aid the insect as to aid us. In fact we find the insect much better equipped than we for the struggle, at this age of the earth. Most of them have wings and ability to see at night, and can secrete themselves in very small places and multiply thousands of times faster than man. These are just a few of the advantages they have over us in the struggle. At this age of the earth under this present environmental condition we find it to be the age of insects instead of man, and if man survives he must fight, and intelligence being his peculiar weapon he must use it.

The greatest drawback against the warfare on insects—man's worst enemy—I find at this time is of a religious nature, a kind of hypnotic stupor, or faith, that some unseen protectorate will intervene in time of dire need. My contention in this idea was confirmed to me a year or two ago in a good sized city of the Middle West. I approached a lady restaurant owner for a contract to exterminate the rats and roaches from her place. She replied that she got rid of them the "Divine Way." I saw that there was no chance for a contract so I could not resist the temptation to indulge in a little sarcasm. "Oh," said I, "You kill them by prayer?" "No, I don't kill them. I don't believe in taking the life of any little creature that God has made." "But you surely don't believe, according to Christian ethics, that you could afford to drive them over on your neighbors?" "Oh, they don't have to go to the neighbors, they can go out in the grass, or anywhere out-of-doors." "And starve slowly to death which would be more inhuman than a quick death by asphyxiation." At this instant the lady grew agitated and restless and I knew the controversy should cease.

I also encountered others while on this trip who took the same attitude about killing God's creatures, which reminded me of the East Indian untouchables who went about with their clothing and bodies reeking with lice rather than crush one of them. The difference in the untouchables and the American lady of civilization is one only of degree and not of kind.

The point that I am trying to drive home here is that if the human race expects to survive and thrive and keep its place in this ideal insect's world it must win its place here by force and intelligence, by clearing, driving and smashing all that stands adverse and counter to it, and the insect is its most formidable antagonist.

We have people who believe that the insect, barring the venomous spiders and their kind, and a few major crop pests, is a harmless little creature that does no more harm than tickle your neck at a campfire, but on looking up the records we find that most of the plagues which have laid man low in the great populated centers have been distributed by insects—the flea for the bubonic plague, the mosquito for the Congo, black swamp, yellow and malaria fevers. The tsetse fly for fevers. The common house fly for typhus fever. The fever tick for fever in cattle, cattle being one of man's principal sources of food, not to mention worms and other parasitic life which infests every branch of our domestic animals, and added to this is the thousands of insect crop pests such as greenbug, chinch bug, grasshopper, mold, blight, Hessian fly, boll weevil, army worm, cut worm, cabbage worm, tobacco worm, etc. The grasshopper with his rugged individualism knows, if he knows anything at all, that this world was not built expressly for man, so he proceeds to harvest his share of the spoils and in so doing has driven many a hardy farmer from the plains back east from whence he came. It seems to me a curious piece of thinking machinery that could concoct a theory of logic that would contend that this world was made purposefully for man, when man has at this time a greater death rate, comparative to his birth rate, than any other form of life on earth, with the exception possibly of the Dodo.

Man! this is your world for the taking, but you've got to fight for it, then fight to maintain it. The insects now have it and they are not going to hand it to you on a platter.

MAILING LISTS

Pave the way to more sales with actual names and addresses of Live prospects.

Get them from the original compilers of basic list information—up to date—accurate—guaranteed.

Tell us about your business. We'll help you find the prospects. No obligation for consultation service.

FREE

60 page Reference Book and Mailing LIST CATALOG

Gives counts and prices on 8,000 lines of business. Shows you how to get special lists by territories and line of business. Auto lists of all kinds.
Shows you how to use the mails to sell your products and services. Write today.

R. L. POLK & CO.
Polk Bldg.—Detroit, Mich.
Branches in Principal Cities
World's Largest City Directory Publishers

Mailing List Compilers. Business Statistics. Producers of Direct Mail Advertising.

STEAM VAPORIZATION

at its best!

Here It Is!

KILLS—Flies, Roaches, Moths and Certain Other Insects

Enthusiastic reports from Professional Exterminators who have tried the Daisy Steam Vaporizer and Daisy Mist liquid prove our claim that the Daisy Method is *"Steam Vaporization at its Best!"* You, too, should at least try out the Daisy Method and consider the profits to be made as a distributor.

Make Your Own Test . . . . at Our Risk!

Order a DAISY EXTERMINATOR and one gallon of DAISY MIST. YOUR COST for both is $16.50. However, on your order accompanied by cash, you get an EXTRA DISCOUNT of 5%, making a trial unit cost of only $15.65. Shipping charges prepaid.

(This offer is made for cash to eliminate bookkeeping expense.)

MONEY BACK GUARANTEE! Your first order is accepted only on condition that if within 15 days the DAISY EXTERMINATOR and DAISY MIST fail to satisfy you thoroughly that you are to return the EXTERMINATOR and what is left of the fluid and GET A FULL REFUND of the purchase price.

You are to be the sole judge of our products. Let this test at OUR RISK show you a new and better way to more business. There is a DAISY TRIAL UNIT waiting your answer.

Write for details if interested in representing us in your territory.

POINT ONE

ALL METAL BOILER: This non-breakable aluminum boiler alone makes the DAISY EXTERMINATOR an outstanding value and gives greater safety and economy in operation.

POINT TWO

NO WATER TREATMENT: The DAISY EXTERMINATOR requires no special treatment of water used in the boiler. Ordinary drinking water will do.

POINT THREE

TRIGGER QUICK VALVE: The DAISY "trigger-quick" pressure valve assures perfect steam vaporizing and operating pressure at all times for greatest diffusion of DAISY MIST.

POINT FOUR

SUPER-HEATED NOZZLE: This does more than atomize. It gives greater vaporization with attending increased efficiency and room spread.

The Daisy Distributing Co.

1009 East 26th St.,

KANSAS CITY, MISSOURI

Ask for our free booklet—

"YES! I'M A COCKROACH"

— It Builds Your Business

WOULD A PRICE LIST IN A CODE HELP?

From what can be gathered by way of information from several cities as discussion on a code was in progress, there always was the question "Shall we or shall we not include a price schedule in the code?" In fact, many hours were given over to this subject, there being very definite opinions on both sides of the question.

The exponents for the inclusion of a price schedule say:

1—At least protection will be had that concerns cannot go below the scale set.

2—It should create more volume of business in that the minimum schedule would place exterminating work within range of everyone who must use it.

3—Makes for greater stabilization which will reflect in the type of salesmanship used.

Those who oppose the inclusion of a price schedule in a code say:

1—The minimum rate will immediately become the maximum rate because concerns will advertise such schedules indiscriminately.

2—We will lose our so-called "plums" in that realtors, owners, management operators, etc., will ask that we charge the minimum rate.

3—Such minimum rate in the code would indicate that it was put in on the basis of such rates allowing for fair profit and make for greater reason why we should confine ourselves to minimum schedule. Pest condition and location often make minimum rate impossible.

4—It would tend to be an injustice to small operator in that those desiring work done might be inclined to favor doing business with larger and better known concerns.

5—Almost hopeless to agree on such schedule because of difference of methods, etc.

Aside from the difficulty of reaching complete agreement in the larger cities in this matter, it does appear that the NRA does not favor such price schedules included in any National Code because it would mean that the government would practically be conducting the business of an entire industry. The administrative machinery involved for such operation of a price schedule would call for an assessment system in terms of constantly having complaints made, investigations follow, which in turn would bring convictions. The theory has also been advanced that such cost of having a price schedule enforced could be made a matter of having each firm making a complaint against a violator assume the cost until such time that it is proven the violator is found guilty and then the violator would be fined accordingly. In other words, it is one thing to think in terms of having a "price schedule" and still another thing to have a confidence that it could be enforced, if such enforcement became one of insisting a law would see to it that it were enforced.

Misunderstanding and real differences as to prices that are being quoted and charged have become a problem of serious nature in only the past three years. Much of this can be placed on conditions throughout the country and the exterminating and fumigating service industry has met with exactly the same problem as is rampant in most any industry. The exterminating and fumigating service industry feels that it probably has been subjected to more of this "cut-throat and chiseling" than other industries. Would it not be more properly stated that the reasons the exterminating and fumigating service industry thinks as it does about the "cut-throat and chiseling practices" as it does, is largely due to the industry having attempted to get along without any real semblance of organization either locally or nationally?

The "Log" is given to understand that in certain states it is permissible to operate under a "price schedule" arrangement. Exterminators and fumigators have succeeded in coming to agreement in some places on the matter of prices and are offering price schedules that should be accepted. The "Log" is not submitting the following price schedules with the thought that such are actually in effect at the places mentioned, but it is printing the schedules for what value they may be for those local societies and other groups which may be thinking in terms of some sort of price schedule that ought to be followed. Three price schedules follow:

The Society of Exterminators and Fumigators of New York, through a representative committee of twelve, worked on the matter of a price schedule and submitted the following report which has never been definitely acted upon for the reason that it was felt a "price schedule" would not be acceptable in a code. It is printed, however, to give some idea of the thoughts in the east. It must also be said that this schedule is not looked upon favorably by all firms of the metropolitan area of New York City nor should it be construed as meaning that such expresses a point of view of other eastern cities:

All prices on regular monthly service shall be for the extermination of ants, roaches, bedbugs in walls, silver fish, crickets, water bugs, rats and mice. These prices shall be based on monthly service. "But there cannot be more than two regular visits throughout the house in any one month." All night work, without exception, shall be one and one-third the regular service price.

Apartment house rates up to 6 apartments, $24.00 per year minimum.

8 apartments	$27.00 per year
12 apartments	32.40 per year

	Per Apartment Per Month	Per Month
16 apartments	20 c	$3.20
18 apartments	19 c	3.40
20 apartments	17½c	3.54
24 apartments	16 c	3.93
28 to 40 apartments	15 c	
50 apartments and up	13½c	

An additional charge of 50c per store per month shall be made with the exception of food stores, which shall be based on price listed in their respective classification. Restaurants and eating places shall be figured in accordance with the number of seats they contain.

Up to 30 seats	$ 3.00 per month
31 to 150 seats	5.00 per month
151 to 250 seats	7.50 per month
251 and up	10.00 per month

Stores other than restaurants serving or preparing food, shall be not less than $3.00 per month. Drug stores shall be not less than $5.00 per month.

HOTELS AND APARTMENT HOTELS, INCLUDING BEDS

$1.00 per room per year. However, the minimum charge shall be not less than $36.00 per year. Restaurants in hotels and apartment hotels shall be figured independent of these figures and added to the room rate.

THEATRES

The following prices are based on service without the spraying of seats, up to

599 seats	$ 5.00 per month
600 to 1500 seats	7.50 per month
Over 1500 seats	10.00 per month

The price on spraying of seats shall be 1c per seat per month, and this price shall be added to the above basic rate for other work.

LOFT, INDUSTRIAL AND OFFICE BUILDINGS

Area in all event is for floor space involved. The amount of $4.00 up to 2500 square feet shall be figured as a base rate. For loft and industrial buildings to the base rate for the next 25,000 square feet add 20c per 1000 square feet per month, over 27,500 square feet add 15c per 1000 square feet. For office buildings, to the base rate of $4.00 which includes up to 2500 square feet there shall be added 15c per 1000 square feet for the next 25,000 square feet and 10c per 1000 over 27,500 square feet.

HOSPITALS

The price for hospitals shall be based on the number of beds, and the rate shall be $12.50 per 100 beds, per month, with a minimum charge of not less than $10.00 per month, and this service shall include bed treatment.

CLUBS

The minimum charge of $5.00 per month, however in clubs where there are restaurants the restaurant rate shall be added, together with the room rate for rooms of not less than $1.00 per room per year.

RATES FOR FUMIGATING WORK

(A) Private Dwellings or Apartments: $25.00 for the first 1000 cubic feet and $2.00 for each additional 1000 cubic feet.

(B) Warehouses, Factories and Stores: $30.00 for the first 1000 cubic feet; then $3.00 for each additional thousand cubic feet up to and including 50,000 cubic feet; then $2.00 per thousand cubic feet up to and including 100,000 cubic feet; and all space in excess of this amount shall be at the rate of $1.00 per thousand cubic feet.

(C) Barges, Passenger and Freight Vessels: $50.00 for first 1000 cubic feet and $1.00 for each additional 1000 cubic feet.

(D) Private Yachts: $50.00 for the first 1000 cubic feet and $3.00 for each additional 1000 cubic feet.

The Pest Control Associates of Southern California presented to some 150 firms the following schedule which is under consideration:

STRUCTURAL FUMIGATION DIVISION SCHEDULE OF RATES
(All rates are minimum rates)

Bedbugs, Roaches and Sickness: First room $3.00, each additional room $2.00.

All Other Vermin: First room $5.00, each additional room $2.50.

Single Apartments: First apartment $5.00, each additional apartment $4.00.

Apartment houses containing more than 48 rooms may be estimated by cubic feet, the same as warehouses.

Basements and Ground Areas Beneath Houses: Where there is no improved basement area, and the height from the grade to the first floor line is not over two feet, the minimum rate shall be $5.00 up to and including five rooms of ground floor area shall be charged.

Improved basement areas shall carry the same rate as for rooms except hillside houses which shall be estimated by cubic feet.

Warehouses: $1.50 per 1000 cubic feet for the first 15,000 cubic feet; $1.00 per 1000 cubic feet thereafter.

Boxcars: Each $15.00.

Other Methods: All fumigation service, regardless of process used, shall carry the same minimum rates as for Hydrocyanicacid fumigation.

Contracts: Yearly contracts on all pest control except bedbug work may be accepted. The minimum rate on such yearly contracts shall be triple the amount for one complete fumigation, payable not less than one-fourth the full amount upon the completion of first treatment.

Service: The maximum period for the minimum price shall be thirty (30) days. A single room for the minimum price shall carry no service period.

Guarantee: A maximum guarantee for the minimum price shall be thirty (30) days.

A single room for minimum price shall carry no service period.

GENERAL PEST CONTROL DIVISION SCHEDULE OF RATES

Ant Work: Minimum price for one-year service $15.00 per year. Minimum rate eighty (80c) cents per trap per year.

In figuring number of traps required around a building the maximum distance between traps shall be each 12 feet of the perimeter.

Where the grounds are to be protected a minimum of one jar of each 20 feet of the perimeter shall be observed.

Roaches and Beetles: Minimum rate on drug stores and restaurants on one-year (or longer) contracts shall be $2.50 per month for any building having a floor area of less than 2000 square feet or fraction thereof.

Example: 2200 square feet $3.00 per month.
3700 square feet $4.00 per month.

On all restaurant and drug store contracts a down payment of at least one-fourth of the total amount of the contract must be secured.

All jobs for roaches and beetles taken for less than one year must not carry more than thirty days guarantee.

The minimum price on this work shall be one-third of the full year's contract price.

Apartment House Basements: Spot treatment or one-shot treatment, minimum charge, $10.00.

Silverfish: The minimum price for any single-shot silverfish job in a private home shall be $15.00.

A single-shot silverfish job shall carry not more than a thirty-day guarantee.

Single-shot silverfish jobs in a private residence shall be figured on a minimum basis of $2.00 per room on the main floor and $1.00 per room on all other rooms. The under area shall be figured at a minimum of one-fourth the price charged for the main floor.

Example: 10 rooms - 2-story house:

5 rooms, main floor	$10.00
5 rooms, second floor	5.00
Under area, same as main floor	10.00
	$35.00

(Continued on page 14)

YOUR DUTY

Now that the exterminating and fumigating industry is nationally organized and we feel more or less as one of the family, it is the duty of each local association to send to the Exterminators Log reports of what is taking place in their locality.

Each month the secretary should make a report of the activities of their association so that the Exterminators Log can publish it, and hence other associations would know what is taking place and profit by it. By this system thoughts and ideas would be exchanged, and aid each other in their work. All would feel like one family and would gather a store house of information that cannot be estimated in dollars.

In order to elevate and make our industry a permanent success it behooves all of us to cooperate to the fullest extent. We must meet each other on a basis of mutual cooperation and understanding in order to accomplish our aim. This can be done when each and every individual that belongs to the industry shares the responsibility and sense his duty.

No one or more members of an organization can accomplish what all would if they were to put their shoulders to the wheel and share in the load.

Could we sense the paramount importance of the national association as we should we would be inspired with zeal in doing our part.

We must not only support our local organization but the national organization as well. The national association was not organized for selfish purposes or to aid any particular individual or firm, but to aid each exterminator and fumigator to improve his business.

The national association champions the right to a part in the moulding and improving in their business. The association will definitely aid each member to achieve the place in the industry that he rightfully merits. It will elevate his status, increase his self respect and obtain for him the compensation that his efforts deserve.

Therefore we say to each member, the association represents you individually and the industry collectively. It belongs to you—cherish it as your personal property—support its efforts on your behalf enthusiastically, in full consciousness of the knowledge that as long as the organization exists your interests will be safe-guarded.

Would a Price List in a Code Help?

(Continued from page 13)

All yearly contracts for silverfish control in private homes must be written on a minimum price basis of two times the minimum price for a single-shot job, and a down payment of at least one-fourth of the total amount secured.

All silverfish work other than single-shot jobs shall be written on contracts for one year or more. In apartment houses and hotels, same as moth control.

Rats and Mice: Minimum price on one year contract in private residence $40.00 per year.

In the case of a three-months contract the minimum shall be one-half the yearly rate, or $20.00.

On commercial buildings the minimum rate for rat or mice or rat and mice work shall be double the minimum rates set forth in this code for roaches and beetles, except that the floors between the main floor and the loft shall be figured at one-half the rate set for roaches and beetles.

Example:

Commercial Buildings and Apartment Houses (More than three stories)	$10.00
Restaurants and Drug Stores	5.00
Three-story buildings (or less)	7.50

Rat-proofing of a building is cost of time, material and other incidentals thereto, plus 15%.

"Combination" Contracts: No so-called "combination contract" shall include termite, fungus or any wood-eating insect.

All "combination" contracts shall specify separately the names of each insect or rodent to be covered by service.

The term "combination contract" as used in this code shall include only the following insects and rodents: Rats, Mice, Roaches, Water Beetles, Ants and Silverfish.

The minimum charge for a yearly "combination contract" shall be: 75c per room per year, plus a $2.00 per month service charge. Single apartments shall be figured as two rooms, and triple apartments as four rooms.

Example: 50-unit apartment house, containing 42 singles and 8 doubles would be figured as follows:

42 singles	84 rooms
8 doubles	24 rooms
Total	108 rooms
108 rooms at 75c	$ 81.00
Plus service charge	24.00
	$105.00 or $8.75 per month

For month control service the minimum rate per room shall be 75c per room. The service charge of $2.00 per month shall not apply where other service is placed on the building.

No chemicals or other material shall be given away free with any pest control contract.

Bees: The minimum charge on all wild bee work shall be $10.00.

Fleas: The minimum rate on flea extermination shall correspond with the rate established by the fumigators' code; this is, $5.00 for the first room and $2.50 per room thereafter, every 1000 cubic feet of hallway to be figured as one additional room. Outside spraying for fleas shall be figured from a minimum of $5.00.

Carpet Beetles: Carpet Beetles work shall not be undertaken for less than the price set forth in the foregoing schedule for fleas.

The Ohio Exterminators Association on August 11th adopted the following schedule:

Minimum service charges to the public for exterminating and fumigating as agreed to by all exterminators and fumigators signing this code.

FOR EXTERMINATING

Where Each Room Is Worked

	Roaches	30-day Service Bedbugs	Moths
One room	$ 5.00	$ 5.00	$ 5.00
Addl. 2-3-4-5 rooms, each	2.00	2.25	2.25
Addl. over 5 rooms, each	1.50	1.75	1.75

Apartments - As a Whole

	30-day Service	Contract Per Month
11 to 16 rooms	$15.00	$ 7.00
17 to 20 rooms	17.00	7.50
21 to 30 rooms	19.00	8.00
31 to 40 rooms	21.00	9.00
40 to 50 rooms	23.00	10.00
51 to 60 rooms	25.00	11.00

Rats and Mice

	30-day Service	Contract Per Month
Single house	$ 8.00	$ 4.50
Two-family house	11.00	6.00
Apartments: 12 to 16 rooms	12.00	6.00
17 to 20 rooms	15.00	7.00
21 to 30 rooms	18.00	8.00
31 to 40 rooms	21.00	9.00
41 to 50 rooms	24.00	10.00
51 to 60 rooms	27.00	11.00

FOR FUMIGATION WITH POISONOUS GASES

1,000,000 Cubic Feet and Up	$0.85 per M.
500,000 Cubic Feet to 1,000,000	.90 per M.
300,000 Cubic Feet to 500,000	1.00 per M.
100,000 Cubic Feet to 300,000	1.20 per M.
60,000 Cubic Feet to 100,000	1.35 per M.
30,000 Cubic Feet to 60,000	1.50 per M.
15,000 Cubic Feet to 30,000	1.75 per M.
2,000 Cubic Feet to 15,000	2.00 per M.
1,000 Cubic Feet to 2,000	5.00 Flat Rate

Where fumigating for any insects that require two, three or four times as much gas as the ordinary insect the prices quoted above should be doubled.

If after an order for thirty-day service is given customer desires to change to yearly service said money paid for thirty-day service shall apply on yearly service fee.

In the case of a contract for service for six months said prices shall be 75% of yearly quotations.

Prices above quoted are for jobs done under one roof, i.e., if a customer gives an order for three jobs at once, where the three jobs are for three different buildings, houses or apartments, said rates shall be figured on each building, house or apartment which is under one roof. There shall be on the above prices a sixty-day guarantee where the entire building, house or apartment is fumigated. Where partial fumigation is made there shall be no guarantee. Further, there shall be no guarantee for exterminating or fumigating rooming houses and hotels.

The Kansas City Exterminating Association has adopted the minimum price schedule for its contracts as follows:

FUMIGATION

	30-Day Guarantee	1 Year
1 single room	$ 5.00	$ 7.00
2 rooms	8.00	11.00
3 rooms	10.50	14.00
4 rooms	12.50	17.00
5 rooms	14.50	20.00
6 rooms	16.50	23.00
7 rooms	18.50	26.00
8 rooms	20.50	29.00
9 rooms	22.50	32.00
10 rooms	24.50	35.00
11 rooms	26.50	38.00
12 rooms	28.50	41.00
Each additional room	2.00	3.00
1 single kitchenette	7.00	10.00
1 double kitchenette	10.00	14.00
4-apartment building	$1.30 per 1000 cubic feet	
Over 4-apartment building	1.15 per 1000 cubic feet	

Additional to contract for roaches and water bugs $10.00, same to apply to rats and mice.

4 to 6-apartment building	
Additional, roaches and water bugs	$10.00
12-apartment building	
Additional, roaches and water bugs	15.00
Additional, rats and mice	15.00
18-apartment building	
Additional, roaches and water bugs	20.00
Additional, rats and mice	20.00
24-apartment building	
Additional, roaches and water bugs	25.00
Additional, rats and mice	25.00

Roaches and Water Bugs - One-year Service

4 to 6-room house	$15.00, with rats and mice $20.00
6 rooms or over	20.00, with rats and mice 25.00

Roaches, Water Bugs or Rats and Mice Clean-out

4 to 6 rooms	$ 7.50
Over 6 rooms	10.00
4 apartments	10.00
6 apartments	12.50
12 apartments	15.00
18 apartments	20.00
24 apartments	22.50
30 apartments	25.00

Roaches, Water Bugs - One Year - With Rats, Mice

4 apartments	$20.00	$25.00
6 apartments	25.00	35.00
12 apartments	40.00	50.00
18 apartments	50.00	60.00
24 apartments	60.00	70.00
30 apartments	70.00	80.00

Rats and Mice - One-year Service

4 to 6-room house	$15.00
Over 6 rooms	20.00
4 apartments	15.00
6 apartments	20.00
12 apartments	25.00
18 apartments	30.00
24 to 30 apartments	35.00

Red Ants - One Year

4 to 6-room house	$ 25.00
1 kitchenette	15.00
4-apartment building	50.00
6-apartment building	75.00
12 to 18-apartment building	125.00
24 to 30-apartment building	200.00

Roaches and Water Bugs - Rats and Mice

1 kitchenette, for roaches	$ 5.00
Hospitals, (small) minimum	100.00
(large), minimum	200.00
Hotels, 50 rooms, per room	1.00
100 rooms, per room	.75
200 rooms, per room	.65
300 rooms, per room	.60
400 rooms, per room	.50

Office buildings, 100 rooms, 75c a room, over 100 rooms 60c a room.

Apartments, 50 apartments $95.00, over 50 apartments, each additional apartment $1.00.

Our readers will likewise appreciate that there are a good many firms throughout the country that favor no price schedule but as suggested in the early portion of this article this material is printed for what assistance it may be for the industry which seems desirous of knowing what thoughts prevail on the matter of prices.

Items of Interest

First Award of Chemical Industry Medal to James G. Vail

The American Section of the Society of Chemical Industry has announced the institution of a new award to be called the "Chemical Industry Medal." This is to take the place of the Grasselli Medal, which has been awarded annually for a number of years by this society and which has now been discontinued.

The new medal is to be awarded annually to a person who has made a valuable application of chemical research to industry, primary consideration to be given to applications in the public interest.

The first award has been made to Mr. James G. Vail of the Philadelphia Quartz Co. for his work on sodium silicates. The presentation will be made at a meeting at The Chemists' Club, 52 East 41st Street, New York City. Dr. Walter T. Taggart of the University of Pennsylvania will describe Mr. Vail's work and Mr. Vail will deliver an address on the subject of the many new and varied applications of waterglass. The presentation of the Medal will be made by Prof. Marston T. Bogert of Columbia University. This will be a joint meeting with the American Chemical Society, the Electrochemical Society and the Societe de Chimie Industrielle. A dinner preceding the meeting will be held at The Chemists' Club at 6:15 p. m. and the meeting is scheduled to begin at 7:30 p. m.

Presentation of Chemical Industry Medal to James G. Vail

The new Chemical Industry Medal of the American Section of the Society of Chemical Industry was presented to Mr. James G. Vail of the Philadelphia Quartz Co. at a meeting held at The Chemists' Club, New York City. The meeting was held jointly with the American Chemical Society, the Electrochemical Society and the Societe de Chimie Industrielle.

The Chemical Industry Medal is an honor instituted by the Society of Chemical Industry this year, for award annually to a person making a valuable application of chemical research to industry. Mr. Vail is the first recipient of this award, in recognition of his work on sodium silicates in industry. Dr. Walter T. Taggart described the work and accomplishments of Mr. Vail leading to this award. Prof. Marston T. Bogert of Columbia University, a past President of the Society of Chemical Industry, made the presentation of the medal. Mr. Vail then presented an address on the subject of waterglass, entitled "The Culture of Certain Silicate Gardens."

Mr. Vail described waterglass as like glass in appearance but soluble in water. The name covers a large group of different silicates. Sticky liquids, white sugar-like crystals, clear glasses of many kinds challenge scientists to explain their useful properties. Corrugated paper shipping boxes are stuck together with these mineral glues. Washing at home and in laundries gives better colors, white and dyed, when silicates are used with soap. Cements for chemical plants and rust prevention for spray cooling systems are based on these peculiar glass-like substances. Mr. Vail used the familiar experiment of the Silicate garden, in which crystals dropped in waterglass grow to wierd plant-like shapes of many colors, to picture the science and technology of these products as a garden where new knowledge reclaims useful developments from the wilderness of the vast unknown. The thrill of discovery which comes from this sort of exploration was compared to the development of a new country. Following waterglass into textile plants where it assists bleaching, into places where grinding wheels are made, into the manufacture of fireproof insulation, into the preparation of mineral paints for the artist and traffic guides for the motorist is a matter of absorbing interest because new developments are around almost every corner. Silicate solutions because of low cost are often a means of saving money. Some of the latest suggestions are concerned with cleaning apples to remove residues of sprays and spraying plants with a harmless substance to render them less attractive to insects.

James G. Vail became a member of the Chemical Department of the Philadelphia Quartz Co. in 1905. Since that date he has held numerous offices in this organization and is now a Vice-President and Chemical Director.

He graduated from Westtown School in 1904 and for a number of years he has served on its Executive Committee. He continued his studies as a special student at the Technische Hochschule at Darmstadt, the University of Pennsylvania and Harvard University.

Aside from his chemical work Mr. Vail served with the American Friends Service Committee for the relief of famine in Germany in 1919-20. He was put in charge of the receipt and distribution of supplies and also the feeding of children in the Hamburg District.

In technical circles he is well known due to his activity in American scientific organizations and through his many contacts abroad. He has served on the Executive Committee of the American Section of the Society of Chemical Industry, as Chairman of the Detergents Committee of the American Oil Chemists Society, as a Director of the American Institute of Chemical Engineers, and as Director of the Industrial Division and Chairman of the Philadelphia Section of the American Chemical Society. He is an active member of the Franklin Institute and is also a member of various other technical and trade associations.

As the author of the American Chemical Society Monograph, "Soluble Silicates in Industry," he is recognized as the leading authority on this subject. Although a great many articles dealing with the technology of the various forms of sodium silicate and also the methods by which silicate is made to serve industry are credited to Mr. Vail, he has steadfastly refused to write for publication except when he felt he had something of importance to say. Recognition of his knowledge and ability has brought invitations to lecture before many scientific meetings and his willing cooperation in solving a wide variety of educational and industrial problems has won for him world-wide friendship and respect.

No Riddance—No Pay

The Edgar A. Murray Company was established by Edgar A. Murray and his father in the year 1895. It has been continuously in business since that time, and at present goods are sold to every state in the Union and in foreign countries. Mr. Murray was a pioneer in putting out a powder for killing roaches and had no competition in that line for a great many years. From the very first the motto has been "No Riddance—No Pay." Absolutely guaranteed every product put out by the company and cheerfully refunding the price of any purchaser who is not perfectly satisfied.

Their new product, Moth Doom, represents years of research work costing many thousands of dollars, in which experiments the moths were bred, reared and allowed to feed on various fabrics, some of which had been "Mothproofed" by so-called mothproofing agents, which had guaranteed lifetime immunity from the ravages of moths.

Moth Doom is the last word in a moth killing and mothproofing agent.

Society of Chemical Industry Offers New Associate Membership

For the purpose of bringing younger chemists and chemical engineers interested in industrial chemistry into touch with the work of the Society, a new form of Associate Membership has been established which is very similar to the Junior Membership in other societies.

To be eligible for Associate Membership, the applicant must be under 23 years of age. His Associate Membership automatically terminates the end of the year in which he reaches 23 years of age.

The subscription for Associate Members is 7 s. 6 d. ($1.90) per year, payable directly to the General Secretary in London or to the local section secretary.

Associate Members will not receive the weekly journal of the Society. They will receive the Annual Reports on the Progress of Applied Chemistry, a volume of some 700 pages covering 24 chapters, each written by an expert or a group of experts in his field. The volume is an annual summary of the progress of applied chemistry which is recognized as authoritative throughout the English speaking world. The normal price of that review is 12 s. 6 d. ($3.15), so that the value of that publication is in excess of the Associate Membership fee. Associate Members shall also have all the other privileges of Membership except the right to vote.

This form of Membership is particularly adapted to the chemical engineering student or to the recent graduate.

Membership applications can be obtained from the Honorary Local Secretary, Foster Dee Snell, 305 Washington Street, Brooklyn, N. Y.

Perkin Medal Award

Dr. Colin G. Fink, Professor of Electrochemistry at Columbia University, has been elected to receive the Perkin Medal of the Society of Chemical Industry for 1934. The medal is awarded annually for valuable work in applied chemistry and will be presented this year to Dr. Fink for his inventions in the fields of metallurgy and electrochemistry. The selection is made by a committee representative of five of the national chemical societies.

Presentation of the medal will be made at a meeting in New York early in January, details of which will be announced later.

Yes! Mr. Bones, Toledo Rats Are Clever

Mr. J. W. Kessler of The Keystone Sales & Service, Toledo, tells a good rat story evidencing the unusual ingenuity of the rodents.

Mr. Kessler, some time ago, had occasion to treat the grocery department of a large department store. Several of the shelves were packed with bottled jellies, securely sealed. Each morning the floor was littered with bottles that had apparently fallen from the shelves for some unknown reason.

Being detained on the premises late one night Mr. Kessler heard the familiar scuffling and browsing of rats in their nightly foraging. He observed one of them climbing quickly in the direction of the bottled jellies. The rat apparently knew its objective for without hesitation it singled out one of the jars, nosed it to the edge of the shelf and pushed it over. The jar broke with a loud crash—the rat clambered down in time to join its comrades in the jelly feast awaiting below.

Picked Up From Here and There

New York Society Held Meeting Oct. 31st

Over 70 attended the recent meeting held by the New York Society. A report was given as to both Cleveland and Washington conventions. Formal approval was given to the code as revised at Washington. Co-operation is to be 100% with the national association.

In the recent quarterly bulletin which is published by the New York Society for the membership of the metropolitan area it is interesting to note the comments with regard to the national association: "The New York Society should feel a certain pride in having had a part in the organization of the national association. Uppermost has been the emphasis that our Society should not place itself in a position where the interest shown in such national association reflects some ulterior motive or even have suggestion of 'dictator' hurled. The industry is larger than any individual concern or any individual local society. Our efforts must be directed toward developing a national unity, free from the taint of sectionalism . . . There is no mistaking the fact that the code is the immediate concern of the national association. We, as a local society, are one of the cogs—in fact, the entire industry of the metropolitan area becomes a cog. The national association looks to local societies and these in turn call upon the individual firms in given areas."

Most enthusiastic was the report received from Nathan K. Concannon who has assumed the duties of executive secretary as he brought out what had already been accomplished in the short period that this office has been functioning. (Editor's note: In New York there was so much work that required attention that Mr. Concannon was given the paid position of executive secretary, thus relieving the officers and directors of the New York Society of much detail work. See article elsewhere in this issue as to what is felt necessary when position of executive secretary is under consideration.) Possibly one or two excerpts of Mr. Concannon's report would be of interest:

1—A complaint was received that a health inspector refused permission to fumigate. After taking this matter up with health department officials, this refusal was withdrawn and the member was permitted to fumigate. In another complaint of similar nature, it was felt upon investigation that health department officials exercised sound judgment in refusing a fumigation and the member, with all facts stated, gladly abided by the decision.

2—One member was confronted with the loss of a contract through the bidding of several firms not members of the Society. The one prospective bidder changed his bid after certain facts were pointed out and the other bidder was disclosed as one who would be unable to carry out the terms of the contract, and still another changed his bid. Result was that the member retained his business.

3—Public liability insurance was secured for two members.

4—Another case of bidding involved two members who did not realize they were bidding against each other. The member who did not realize he was bidding against an old account that was desired to be retained by the other member, withdrew his bid.

The industry in New York is rapidly appreciating all that is being done and what can be accomplished through the local Society.

A regular meeting of the Kansas City Exterminating Association was held Thursday evening, October 12, at 514 East Fourteenth Street.

A standing vote of congratulation was tended to our President, Mr. Andrews, on his election as one of the Vice-Presidents of the national association.

The minutes of the last meeting were read by B. M. Allegro, our secretary.

The members were very anxious to hear from our delegates, Mr. Andrews and Mr. Cossetta, to give their report of their visit to the Cleveland and Washington conventions.

It was very interesting to hear of the outcome of the conventions.

Then an interesting discussion took place between the members in how to elevate and restore prestige to the association. One of the paramount issues discussed was how to encourage our competitors who are not members of the association to join with us.

Each member manifested their willingness in endeavoring to do all in their power to make the association a success.

Mr. Bedingfield of the Getz Exterminators, Inc., related an experience in how he met a fellow member on a premises making an estimate, and hearing what his fellow competitor priced the building, he increased his bid. Mr. Bedingfield is one of those humorous chaps who enjoys having some fun with the members.

How splendid it is when competitors can gather together as one family to discuss their problems. To manifest such a spirit of cooperation and harmony is remarkable.

Atlanta Exterminating and Fumigating Association

We wish to go on record in the Exterminators Log that the exterminators in Atlanta have formed an association in order to conform with the NRA, and to come together to have a mutual understanding and eliminate unfair competition. We have held two meetings at the Chamber of Commerce and have organized the association. The members consist of all the exterminators and fumigators in the city of Atlanta. The officers were elected at the first meeting as follows:

Mr. G. H. Burnett, President, with Getz Exterminators, Inc.

Mr. B. S. Oser, Secretary-Treasurer, with Orkin Exterminating Co., Inc.

We feel that our association will greatly benefit the industry in Atlanta.

Houston, Texas, reports through Mr. Newman B. Gregory of the Temple Lumber Co., that the exterminators in this city have organized. Termite work is their greatest concern.

Being members of the National Association affords excuse for those visiting other cities to stop in and talk matters over with those in the industry. The New York Society welcomed Mr. F. E. Bohman of The Birchard System of Hartford, Conn., at the meeting held October 31st. "Bill" Buettner took time off while in Philadelphia to attend the Pennsylvania-Dartmouth game and to have lunch with Messrs. Vogel and Ritt of the Vogel-Ritt Exterminator Co.

At Memphis, Tenn., progress is being made to have the exterminators and fumigators organized into a local society. Mr. Louis Kottler of the Orkin Exterminating Co. is taking the initiative to bring this group together.

From Los Angeles, Calif., Mr. Edgar A. Wimer, who is secretary of the Pest Control Associates of Southern California, comes the report that the code as amended and approved unanimously is awaiting the action of the State Corporation Commissioner for his approval. It may not be generally known that in California there was special enactment of a law which permits approval of a "price list schedule." We understand that about 150 firms with capital investment of over $1,000,000 are affected. It speaks well for a group as large as this group to come to a definite understanding.

Mr. Lester M. West, secretary of the New England Exterminators and Fumigators Society, raises a valid question on the subject of Red Book advertising. As an industry we should come to a decision so that there should be only one "Heading." The public will soon become educated to look under a specified classification if we, as an industry, insist that there should be only one 'Heading." Why should there be several listings as, for example, we understand exists in one city: "Bugs," "Exterminators," "Fumigators," "Insecticides" and "Rats"? If the listings were to be "Exterminators" much duplication could be saved and with cessation of such duplication expenses could also be cut.

Word comes that Dr. Hugo Hartnack of Chicago, who has been sick, has returned to his office for active duty again. We wonder if the vermin got much of a start while you were sick, "Doc."

St. Louis has had a Fumigators' Association for the past two years. This society has been enlarged so as to include all exterminators and the new name is "St. Louis Society of Exterminators and Fumigators." The officers are Frank J. Fahrenkamp, President; W. E. Martin, Vice-President; Roy Allison, Treasurer, and William G. Duncan, Secretary. Mr. Duncan can be reached at 504 Chouteau Avenue if there are any who desire to communicate with this local society. We like their "Constitution and By-Laws."

(Continued on page 17)

Local and State Organizations

Particularly encouraging is the fact that in many cities and states where societies either existed or have recently been organized or are in the process of organization, these local societies are becoming known and interchange of ideas will become a mutual benefit for the entire industry. The NRA would find it an impossible task to deal individually with all local groups and appreciates the way in which these local groups are working through the national association.

We propose to keep the industry posted as to all these local societies and endeavor to keep the list up-to-date at all times that any who may desire to write may do so. In each of the following we have mentioned either the secretary or person to whom communications may be addressed:

1—New England Exterminators and Fumigators Society, Lester M. West, Secretary, 82 Stanifold St., Boston, Mass.

2—Minneapolis-St. Paul, Minn., Exterminators and Fumigators. Max J. Levy, on organization committee, 2399 University Avenue West, Minneapolis, Minn.

3—New York Society of Exterminators and Fumigators, Inc., Irving H. Josephson, Secretary, 480 East 163rd St., Bronx, N. Y.

4—Chicago Exterminators and Fumigators, Walter S. McCloud, on organization committee, 325 W. Huron St., Chicago, Ill.

5—Philadelphia Society of Exterminators and Fumigators, A. E. Ritt, President, 1601 Chestnut St., Philadelphia, Pa.

6—St. Louis Exterminators and Fumigators, William G. Duncan. Secretary, 504 Chouteau Ave., St. Louis, Mo.

7—Houston, Texas, Exterminators and Fumigators, Newman B. Gregory, President, Temple Lumber Co., Houston, Texas.

8—Baltimore Society of Exterminators and Fumigators, G. Walter Porter, Secretary, 233 St. Pauls Place, Baltimore, Md.

9—Ohio Exterminators Association. Lawrence A. McKenna, Secretary, 1700 Chester Ave., Cleveland, Ohio.

10—Washington, D. C., Exterminators and Fumigators Society, P. Calvert Cissel, President., 936 Eye St., N. W., Washington, D. C.

11—Detroit Exterminators and Fumigators, G. J. Russell, on organization committee, 3752 W. Philadelphia, Detroit, Mich.

12—Buffalo Exterminators and Fumigators, K. D. McLiol, on organization committee, 356 W. Hazeltine, Kenmore, N. Y.

13—Kansas City Exterminators and Fumigators Association, B. M. Allegro, Secretary-Treasurer, 512 E. 14th St., Kansas City, Mo.

14—Pest Control Associates of Southern California, Edgar A. Wimer, Secretary, 344 West 76th St., Los Angeles, Calif.

15—California Fumigators Association, Donald S. C. Anderson, Secretary, P. O. Box 374, Redlands, Calif.

16—Memphis, Tenn., Exterminators, Louis Kottler, on organization committee, 618 Exchange Bldg., Memphis, Tenn.

17—Atlanta, Ga., Exterminators, Otto Orkin, on the organization committee, P. O. Box 647, Atlanta, Ga.

There are undoubtedly others but in the absence of information having been sent to the secretary of the national association, it is impossible to include such names. It would be very much appreciated if there are other local societies in any section of the country to communicate with Mr. Irving H. Josephson, Secretary of the National Association of Exterminators and Fumigators, Inc., 840 Eighth Ave., New York City, N. Y. To keep the roster up-to-date will mean that all can be kept informed on important matters of the industry.

Picked Up From Here and There

(Continued from page 16)

Mr. Max Levy, one of the directors of the national association, writes that seven firms met on October 25th at Minneapolis with the result that a local society will be formed. These local societies can go a long way to make for better understanding. It will be surprising what can be accomplished as we sit around the table with competitors rather than continue in the spirit of isolation and non-cooperative methods of not discussing the differences.

An exterminators society in San Antonio is in the making. At the first meeting, November 3, 1933, representatives from the following concerns attended, Anderson Chemical Co., Harris System Termite Co., San Antonio Exterminators and Getz Exterminators, Inc., San Antonio Branch. The topic of the meeting was to organize locally and become more acquainted with our exterminating problems here.

We, as a branch of Getz Exterminators, Inc., of St. Louis, Mo., and belonging to the National Exterminators and Fumigators Association, are supporting them 100%.

We especially congratulate the officers and directors of the national association on their splendid work at the Washington Convention, October 2, 1933.

It's easy to see!

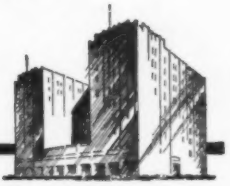
why travelers from all over America declare the Pickwick one of the best. Each guest room is completely equipped including a Simmons Beautyrest Mattress, bed and desk lamps, four station radio, roomy bath with full length dressing mirror, everything to please the most discriminating guest, while rates are amazingly low.

Room Tariffs

Single . . $2 to $ 3.50
Double . $3 to $ 4.50
Suites . . $6 to $12.00

H. J. STEED, *Manager*

hotel
Pickwick
Kansas City, Mo. 10th & McGee



FUMIGANTS

(Continued from page 9)

rious parts before starting. Flour mills and similar large structures frequently fumigated are often equipped with a built-in system of lead or copper piping with an outside connection for the cylinders.

The dangers particularly attendant on the use of liquid hydrocyanic acid are from two sources: One is the fact that the gas reaches full concentration immediately, so that anyone caught in the building does not have time to get out. The other comes from leaks in the tubing, particularly at the joints. It is the latter that is the main danger to fumigators. As regards the former, of course, no one should be permitted to be in a building or ship about to be fumigated, and it is the fumigators' particular business to see that all are out; but despite the most careful guarding, unauthorized persons sometimes get caught. If liquid hydrocyanic acid is the fumigant they will never be caught again. This danger is a very real one, even to the best-trained fumigators. Recently on a ship a hose line, inadvertently left under pressure, was being uncoupled when a spray of liquid suddenly flared out from the loosened coupling. It missed the fumigator's face by a few inches and his trained instinct told him to keep breathing out till he was 20 feet away, so that he escaped; but for a moment it looked as though there would be a vacancy in that fumigating crew. A fumigator of 16 years' experience was killed in New Orleans by pulling apart a clogged hose line. The liquid hydrocyanic acid shot back into his face.

There is one other danger connected with liquid hydrocyanic acid and that is spontaneous explosion in the cylinders. This is not a serious danger at present, but its possibility should be kept in mind in case of cylinders that have been in storage six months or longer. When hydrocyanic acid is permitted to acquire an alkaline reaction, it disintegrates, the chemical change becoming progressively faster and faster. Nitrogen and ammonia gases are formed and these accumulating in the cylinder increase the pressure. At a certain point the reaction becomes violently explosive, sufficiently so more or less to wreck everything in the immediate vicinity. Commercially it is now preserved by the addition of acetic acid. No explosive accidents have occurred during the past several years, but the companies supplying hydrocyanic acid keep track of the cylinders and call them in three months after shipping. Tests have shown that acetic acid in proper amounts prevents explosive deterioration for a year or more, so that the safety margin is large. Explosion in fires will be referred to later.

Somewhat less effective in equivalent amounts, but far more easily and safely handled, are Zyklon and HCN discoids. These products are essentially the same. Zyklon has the advantage that the cans may be opened with a hammer, while discoid cans must be opened with a special opener making a clean cut close to the rim. Discoids have the advantage that each disk holds approximately one-half ounce of hydrocyanic acid, thus permitting reasonably accurate dosage of small compartments. Both come packed in 40-ounce cans of much heavier gauge than the ordinary tin can. To use them, the can is opened and the contents are shaken out and spread on the floor. The cans may be opened out of doors and carried in, but usually they are opened inside, in which case the operators must wear gas masks. The gas begins to come off immediately, and within one hour most of it has evaporated. If fumigation time is two hours or more and ventilation is continued for an hour or more after fumigation, the spent discoids or Zyklon residue will be found quite dry and harmless and may safely be left where they are. An exception must be noted here: One would suppose that even a very ignorant fumigator would realize the necessity of spreading out the fumigant to insure rapid evaporation, but it does sometimes occur that careless men will pour these materials out in piles or stacks which may retain some liquid HCN for as long as four or five hours, possibly longer in severely cold weather. An overnight (12 hours or longer) fumigation, however, insures that the residue will be found dry and free from all but traces of HCN.

The simplicity of use of HCN discoids and Zyklon is quite apparent. One merely takes his fumigant, in cans of convenient size, into the building, opens them, spreads the contents, and goes out, closing the door behind him. After fumigation, the residue is swept up and, with the empty cans, thrown into the trash. What could be simpler? Yet, it has its attendant danger and one that is equally inherent in all the generation methods of fumigation. That is, the fumigator must take the fumigant into the space fumigated and remain long enough to open the cans and spread it around. In the case of generated gases he must remain long enough to drop the cyanide into the various acid barrels or crocks. This means that he must be exposed to the gas for a certain length of time. In small buildings or on ships this is a trifling consideration, the time of exposure being quite short; but in large buildings, in which spreading the fumigant may take an hour or more, it is often a serious problem, sometimes requiring the arrangement of relays of fumigators. The danger arises through the absorption of HCN through the skin.

A good gas mask protects completely against cyanide in the inspired air, at least up to a concentration materially above the concentrations usually used in fumigation of buildings or ships; but to protect the surface of the entire body, a complete rubber suit would be required. This is impractical for several reasons, not the least of which is that it would soon be most uncomfortably hot on the inside. Yet it is not so very unlikely that skin absorption of cyanide may force some such protection in certain kinds of fumigation procedure.

It was in order to stress this point that I mentioned earlier that HCN rapidly penetrated clothing. In fact the penetration through clothing, promoted as it is by the motion of the fumigators and air currents set up by the heat of the body, is practically immediate. A person may go into a relatively concentrated gas, say 2 or 3 ounces per 1,000 cubic feet, without noting any skin effect; but if he enters a concentration of 6 to 10 ounces per 1,000 cubic feet, he will at once experience a sensation of warmth over the entire body which becomes more and more pronounced. After five minutes spent in such an atmosphere the entire skin surface becomes noticeably reddened, and sensitive persons may experience an actual burning sensation. If this warning is disregarded, a feeling of weakness appears, followed by nausea and vomiting and often by headache. A still more advanced sign of poisoning is difficulty in breathing, the subject feeling as though giant hands were holding the chest and preventing its expansion. This is the last warning, being the forerunner of loss of consciousness and paralysis of the respiratory nerve center. Experienced fumigators seldom reach this stage but it is not unusual to see them emerge from a large building decidedly wobbly in the knees and distressingly sick. While there is not available at present any exact data regarding absorption through the skin, it is, I believe, safe to state that, protected with a good gas mask, one may remain in air containing 2 ounces HCN per 1,000 cubic feet for one-half hour without experiencing signs of poisoning. In a concentration of 4 ounces per 1,000 cubic feet, this should be reduced to 15 minutes, and in 8 ounces per 1,000 cubic feet to 5 minutes. Of course the distribution of 8 ounces of Zyklon or discoids per 1,000 cubic feet, in a building does not mean that the fumigators are exposed to such a concentration, since the full amount will not have entered the air short of one hour. Since the fumigators are nearly always going away from the gas it is unlikely that they are actually exposed for the greater part of the time to more than 1 or 2 ounces per 1,000 cubic feet.

Zyklon and HCN discoids do not present the transportation dangers of liquid HCN. Being in a solid form they do not flow; and with the evaporation rate much slower, quite a large amount (relatively, not in terms of tons, of course, but of pounds) may be spilled in the open without immediate disaster. Leaking cans are not a menace in the open, since the gas is given off so slowly through ordinary leaks that one would have to hold such a can close to his face to become poisoned. Because of this reduced danger from breakage, the Interstate Commerce Commission permits shipment in heavy-gauge cans. Leaking cans in storage may be a source of danger, since the gas is then liberated in an enclosed space. For this reason it should be stored only in well-ventilated rooms.

Cyanogas, which is the trade name for calcium cyanide, differs from Zyklon and HCN discoids in one important respect: This is that the residue is poisonous. Calcium cyanide is a very fine powder, usually packed in cans. When the cans are opened and this powder is spread out, it absorbs moisture from the air. This causes a chemical change to calcium hydroxide and HCN, the latter being given off into the air. But, and here is the difficulty, some of the HCN is absorbed by the calcium hydroxide and changed to calcium cyanide and water. Under any circumstances there is always some calcium cyanide left in the residue which, therefore, must be gathered up and safely disposed of. One method of getting around this is to take advantage of the fine powder form of the material and to blow it into the air, from which it settles as a fine dust. There appears to be no great objection to this, in the absence of foods, from a safety standpoint, it being inconceivable that anyone would sweep up this powder and eat it; but where foods are fumigated they become inseparably mixed with the fumigant. If calcium cyanide is left for several days' airing, the cyanide content finally becomes so low as to be negligible.

The so-called barrel methods, or generation methods, of fumigation, which require the placement of barrels or other containers, in which sodium cyanide is mixed with an acid, all involve the same essential procedure. There are two main variations: In one only HCN is generated; in the other, a mixture of HCN and cyanogen chloride is produced. The procedure in either case is to mix the acid with an equal amount of water in a barrel or crock (depending on the size of the space to be fumigated), put

(Continued on page 19)

FUMIGANTS

(Continued from page 18)

it in place, drop into it sodium cyanide in a paper or cloth bag, and leave. It sounds simple; but if this has to be done on each of five floors of 40,000 square feet each, and each one cut up into various sized compartments, the difficulties will be multiplied. Yet, I once saw this feat performed by five men, none of whom wore a gas mask or even had a mask among them. They decided they would never get out alive if they tried to drop the cyanide by hand, but got around the difficulty after considerable tedious labor by suspending the cyanide in bags over each barrel and leading the suspending cords over pulleys all the way to the front door on the street level. They had over 100 cords tied at the door, representing more than 6 miles of cord. When all was ready they cut all the cords and shut the door. With gas masks the dropping is usually done by hand, in which case the fumigators became exposed to absorption through the skin, as occurs with Zyklon and similar materials.

The generation method involves a large amount of work. The ingredients must be mixed in the proper proportions and amounts, and this involves measuring the acid and water and weighing the cyanide, although the latter procedure is much simplified by the use of cyaneggs, that is, sodium cyanide in the shape of balls, each weighing 1 ounce. The apparatus is bulky and cumbersome and must not only be put in place but must also be removed. The spent acid cyanide mixtures must be safely disposed of.

Aside from cyanide dangers, the acids used are injurious. Sulphuric acid is a highly corrosive poison, either internally or externally. It is ruinous equally to the fumigators' clothing and their skins; several serious accidents have been caused by breaking of jugs of acid. It is also highly injurious to floors and fittings. Its corrosive action on barrels often causes them to spring leaks, and if too much material is put in a barrel it may boil over. Hydrochloric acid used in the generation of cyanogen chloride mixture is far less injurious than sulphuric acid, but it is by no means harmless.

The generation method, like all other cyanide methods, has its own peculiar danger. Here it is the spent acid cyanide mixture, which is not truly spent at all. When the barrels are removed, the shaking up of the mixture often causes the liberation of considerable volumes of HCN gas. It is hardly necessary to discuss this further; the danger is obvious. It might be said that experienced fumigators are aware of this danger, and on smelling the gas get out at once or put on masks. I have seen some very rapid ascents up the ladders leading out of ships' holds in the days before gas masks became generally used. Several fatalities from this cause have occurred, though none, I believe, of recent date.

Cyanogen chloride mixtures are generated by putting diluted hydrochloric acid in the barrels and dropping into it a mixture of sodium cyanide and sodium chlorate. The resultant gas is a mixture of about one-third HCN and two-thirds CNC1. Recently a modification of this method, commercially known as "Safti-fume," has been put on the market. It consists of the cyanide and chlorate mixed with sand and some other materials put into the form of solid, but porous, briquettes, which are dropped into the acid. The cyanogen chloride is a very highly irritant gas, particularly to the eyes, nose, throat, and lungs. In even moderate concentrations it is practically intolerable, causing pain and weeping in the eyes, discomfort in the nose and throat, and pain and coughing in the chest. It is not as effective a fumigant as HCN, but is largely used on account of its warning properties.

Warning Gases

This brings up the subject of warning gases. These are substances added to the fumigant for the purpose of giving warning of the presence of the gas. Hydrocyanic acid has a distinctive odor and may be detected by experienced fumigators in quite a low concentration. To the uninitiated, however, its odor does not indicate danger, nor in lethal concentration does it cause discomfort. Persons have been killed without ever knowing that they were in danger, as occurred recently when three members of a family were found dead sitting at the breakfast table while the fourth, also dead, was reading a newspaper when overcome.

Because of such accidents, numerous attempts have been made to incorporate in the fumigant gas, other gases which, due to highly irritant properties, give a distinct warning of their presence, even when in quite small amounts. The aim has been to render a fumigated space literally intolerable until airing has removed all but traces of the fumigant. This objective has never been completely realized. Nearly always the warning substance used has been a tear gas, although evil smelling gases and some that primarily cause coughing or choking sensations have been tried with some success. Usually the warning gas is present in small amounts; chloropicrin, the gas most commonly added to HCN, seldom constitutes more than 5 per cent of the mixture. In some cases, however, advantage is taken of the fact that most warning gases are themselves poisonous and may be used as fumigants. Chloropicrin, for example, is advocated by the manufacturers as a fumigant. The use of cyanogen chloride is another attempt in this direction.

There are two distinct dangers connected with the use of warning gases. One is, that when present in sufficient quantity to be actually intolerable, they constitute a menace to the fumigators, who may be rendered helpless by the effects of the warning gas. Tear gases, for example, may get inside a gas mask in sufficient amount to blind the fumigator. The other is that the warning gas may disappear before the HCN so that fumigators misled by the absence of warning gas may declare a place safe when it is not. Two cases of this nature have occurred on ships in my own experience. This failure of after-warning appears to be due to the warning gases being much less penetrating than the HCN. The latter is absorbed by porous materials, while the warning gas, not being absorbed, is blown away by air currents. Upon its disappearance, the room is declared safe and is closed; but the absorbed HCN, slowly liberated, passes into the now confined air where it produces an unsuspected dangerous concentration.

Another way in which warning gases sometimes fail is when penetration occurs through a porous partition. It is my belief that this occurred in a recent fumigation accident. The gas apparently penetrated through a brick wall, probably mainly through numbers of small cracks. The HCN portion of the gas, being much more penetrative than the CNC1, came through first and caused poisoning of several persons (fortunately not fatal) before the CNC1 penetrated in sufficient quantity to give a positive warning.

Thoroughly competent fumigators do not rely on warning gases alone. They do, however, use them as a help, both as a warning to others and to assist in detecting the gas themselves.

There is one fumigant, still used often enough to be considered, that is quite intolerable in amounts far below the immediate lethal concentration for man, and that is sulphur dioxide, produced by burning sulphur. This gas is highly irritant to the lungs, however, and while human deaths by being directly fumigated with it are rare, severe bronchitis and fatal pneumonia following exposure to it have been by no means uncommon. Formaldehyde is practically intolerable in relatively small amounts, but it is rarely used as a fumigant today because it has little effect on animal life.

BUSINESS OPPORTUNITIES

(CLASSIFIED)

RATES—For individuals seeking employment, 5c per word, minimum $1.00. No charge for "Free Offerings" advertisements. All others 10c per word, minimum $2.00. All advertisements must be in the hands of the publishers seven days before publication date and must be accompanied by cash or money order for payment in full. Checks or stamps will be rejected. The publishers are not responsible for any false or misleading advertisements and will exert their fullest energy to assist in the conviction of those offering same.

ISSUE 12 UNAVAILABLE FOR PHOTOGRAPHY